

# The impact of COVID-19 on dental education in North America—Where do we go next?

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## Abstract

During the COVID-19 pandemic, the dental education community faced unprecedented challenges. In this commentary, we share the perspectives of faculty clinicians, residents and students in academic dental institutions in the United States and Canada. We discuss COVID-19's impact on various aspects of academic dentistry including patient care, education, research and raise key concerns regarding the future of dental education post-pandemic.

## KEYWORDS

COVID-19, infection control, online learning, prevention, teledentistry

## 1 | INTRODUCTION

During the COVID-19 pandemic, the academic dental community faced a myriad of challenges.<sup>1–3</sup> Dental education institutions in North America followed governmental recommendations and implemented measures to actively respond to the ongoing public health crisis in all areas including patient care, education, research and dental team wellbeing. Dental institutions worked closely with universities, health centres and governments to make informed decisions to ensure the safety and wellbeing of patients, students and all members of the education and dental team.<sup>4</sup> The COVID-19 public health crisis affected several areas of academic dentistry including patient care, education and research. In this commentary, we share our perspectives, discuss the impact of COVID-19 on dental education in North America and raise key concerns regarding the future of dental education post-pandemic.

## 2 | IMPACT ON PATIENT CARE

Due to the risk of infection transmission in the dental setting, academic dental institutions have, since March 2020, closed teaching clinics and sent students home to continue didactic learning in accordance with governmental stay-at-home measures. In terms of

dental emergencies, it was crucial for oral health professionals to maintain non-hospital based urgent dental care services operational in order to help reduce the burden on our hospital centres already under pressure.<sup>5</sup> Most institutions have limited patient care to only urgent or emergency needs with faculty clinicians and advanced dental education residents providing care. Dental students are also participating in teledentistry consultation to continue their learning. However, they do not provide care in the clinic. Teledentistry consultations are used to triage patients to reduce the need for in-person appointments and mitigate the risks of disease transmission if the issue can be resolved by consultation. Institutions follow measures recommended by the Centers for Disease Control and Prevention (CDC) and the American Dental Association (ADA) interim guidance to minimise the risk of disease transmission, including limiting emergency treatments to use non-aerosol generation procedures.<sup>6</sup>

Dental institutions across North America are facing a challenging dilemma: When should clinical activities resume in the teaching clinic? This decision depends on many factors including current epidemiological trends, governmental public health policies and access to COVID-19 testing for clinical personnel. The safety of students and staff is a top priority. Special precautions including additional infection control measures, personal protective equipment (PPE) availability and clinical space adjustments are essential to provide a safe working space for the dental team while minimising occupational

hazards. For instance, during the transition period, teaching clinics may be required to operate at a reduced capacity with students and staff providing care on a staggered schedule to avoid overcrowding the clinics and waiting rooms.

### 3 | IMPACT ON EDUCATION

During the COVID-19 crisis, didactic courses, hands-on workshops, presentations and seminars have transitioned to online instruction. It was challenging for faculty members to adapt the entire curriculum and evaluation methods in a short period of time. Dental faculty managed to produce an online curriculum by utilising teleconference and file-sharing platforms to deliver virtual lectures, facilitate group discussions and promote student engagement. Despite dental educators' best efforts, some challenges persist. Course and examination attendance may become difficult for students who may live in different time zones or may have young children to care for. In addition, preclinical simulation activities have stopped at many institutions. External rotations have been generally cancelled or moved to teledentistry consultations. Furthermore, dental institutions must adhere to strict regulations and clinical requirements set for its students and residents by the Commission on Dental Accreditation (CODA) or the Commission on Dental Accreditation of Canada (CDCA). CODA and CDCA are the respective US and Canadian national accrediting agencies that serve the public and the profession by ensuring the continuous quality of dental education programmes. With patient care coming to a halt, major concerns of academic institutions include how will we ensure that students and residents are clinically competent? How will they satisfy clinical requirements imposed by accreditation councils? Currently, CODA and CDCA requirements have not changed despite the COVID-19 crisis, while schools are struggling to find innovative solutions to meet these requirements.

Many licensure examination agencies are rescheduling examinations. As several licensing examinations involve live patients, it will be a challenge to ensure patient and student safety in the post-COVID era. Perhaps, restructuring the format of licensure examinations to transition away from live-patient exams may be a timely strategy. Recently, in the United States, the Joint Commission on National Dental Examination (JCNDE) has released a new Dental Licensure Objective Structured Clinical Examination (DLOSCE), which is designed to reliably and accurately reflect the practice of clinical with a particular focus on the assessment of clinical judgment and decision-making.<sup>7</sup> This type of evaluation method does not require procedures to be performed on live patients and is currently used by the National Dental Examining Board of Canada (NDEB) to award dental licensure.<sup>8</sup>

When it comes to application for admission of new students, the four main American Dental Education Association (ADEA) Centralized Application Services for dental schools, post-doctoral programmes, advanced placement programmes for international dentists and dental hygiene programmes continue to function.

However, in-person interviews may be impacted during this application cycle. Thus, institutions will need to adapt by transitioning to virtual interviews to minimise the risks of disease spread. Finally, incoming students and residents will be affected as the start dates of many programmes remain uncertain.

### 4 | IMPACT ON RESEARCH

In response to the COVID-19 pandemic, academic institutions have scaled back research activities with most laboratory-based experiments coming to a full stop or a ramp-down. This will lead to a significant delay for many researchers. Many ongoing studies in progress were terminated resulting in significant time and financial loss. Graduate students may see their thesis submission and defence delayed due to the lack of key experimental results. Grant applications may need to be postponed due to the lack of preliminary data. In addition, many faculties have announced a hiring freeze, which puts postdoctoral fellows on the job market in a difficult position.

### 5 | IMPACT ON THE DENTAL EDUCATION COMMUNITY

The COVID-19 pandemic has an immediate impact on the professional and personal lives of faculty members and students. Essential clinicians performing emergency treatments are confronted with increased risks of contracting the viral infection, while screening tests for COVID-19 are not readily available and accessible. Students are at increased risk of developing mental health issues such as anxiety and depression precipitated by worries about their return to school, academic performance and financial situation. Other members of the dental team may be worried about the potential recession and its impact on the job market, heavy student debt and occupational hazards of performing dentistry in the world post-COVID-19. In addition, graduation ceremonies, which students and their families have been looking forward to, have been postponed, cancelled or moved online.

With the interruption of clinical care, dental institutions are confronted with significant financial burden associated with the loss of income generated by teaching clinics and the burden of reimbursing clinic fees to students. This is a major challenge for dental institutions as they struggle between losing hundreds of thousands to millions of dollars in revenue while maintaining the ability to pay faculty and support staff. As this pandemic may negatively affect the economy, it is uncertain whether patients will still be able to continue their dental treatments. Will dental institutions be able to recruit enough patients back to the clinic? What additional expenses must dental institutions incur in order to be compliant in a post-COVID world? To answer this question, we need to consider the cost of implementing additional precautions in infection control, such as the cost of additional PPE (gowns and face shields) and the installation of negative pressure rooms and air filters. Moreover, a slower patient

turnaround rate is expected because appointments between each patient will need to be scheduled apart with enough time to minimise possible contact with other patients in the waiting room, while allowing more time for dental students and support staff to ensure proper disinfection of dental operatories. Clinical settings also need adjustments in order to allow a safe working space and to respect the rule of physical distancing, which will result in additional expenses for dental institutions.

Finally, during this crisis, there has been an increase in misinformation and bias that lead to the mistreatment or discrimination against patients and dental team members of Asian, Asian American or Asian Canadian descents. The academic institutions and dental education community must work together to provide a safe, inclusive and welcoming learning and work environment for all members of our community during this challenging time.

## 6 | TOGETHER INTO THE FUTURE

Despite the myriad of challenges associated with the COVID-19 pandemic, many positive outcomes that may result from this crisis. To begin with, the dental education community across North America is more connected than ever. There are increased educational co-operation, knowledge sharing and research collaborations between academic dental institutions. For example, dental academies, societies and industries have united to provide access to free continuing education (CE) content and virtual conferences to promote professional collaboration and solidarity. In addition, dental education programmes have gained valuable experience in adapting and improving educational methodologies for students and trainees during this public health crisis. Furthermore, many institutions have been providing key resources to help students and staff affected by the pandemic including mental health counselling, financial assistance, wellness workshops and virtual social interaction opportunities. Faculty and support staff have been taking extra steps to meet with students regularly to hear their concerns and update them on the latest news. With time, things will get better. Together, our dental education community and partners will join forces to persevere through this turbulent pandemic.

## CONFLICT OF INTEREST

All authors disclose no conflict.

## DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analysed in this study.

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## REFERENCES

1. Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine. *J Dent Res*. 2020;99(5):481-487.
2. Prati C, Pelliccioni GA, Sambri V, Chersoni S, Gandolfi MG. COVID-19: its impact on dental schools in Italy, clinical problems in endodontic therapy and general considerations. *Int Endod J*. 2020;53(5):723-725.
3. Coulthard P. Dentistry and coronavirus (COVID-19) - moral decision-making. *Br Dent J*. 2020;228(7):503-505.
4. American Dental Education Association. Response of the Dental Education Community to Novel Coronavirus (COVID-19). <https://www.adea.org/COVID19-Update/>. Accessed May 4, 2020.
5. Dave M, Seoudi N, Coulthard P. Urgent dental care for patients during the COVID-19 pandemic. *Lancet*. 2020;395(10232):1257.
6. American Dental Association. ADA Interim Guidance for Minimizing Risk of COVID-19 Transmission. [https://www.ada.org/~media/CPS/Files/COVID/ADA\\_COVID\\_Int\\_Guidance\\_Treat\\_Pts.pdf](https://www.ada.org/~media/CPS/Files/COVID/ADA_COVID_Int_Guidance_Treat_Pts.pdf). Accessed May 4, 2020.
7. The Joint Commission on National Dental Examination. DLOSCE FAQ. 2020. <https://www.ada.org/en/jcnede/dental-licensure-objective-structured-clinical-examination/dental-licensure-objective-structured-clinical-examination-faq>. Accessed May 31, 2020.
8. The National Dental Examining Board of Canada. OSCE. 2020. <https://ndeb-bned.ca/en/accredited/osce-examination>. Accessed May 31, 2020.

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